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GALVESTON

BY
MAJ.-GEN. Q. A. GILLMORE

U. S. ENGINEERS¹



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GALVESTON.

GALVESTON, a city and port of entry on the coast of Texas, United States of North America, situated about 340 miles to the westward of the mouth of the South Pass of the Mississippi River, on the south side of the entrance into Galveston Bay, in $29^{\circ} 18'$ N. lat. and $94^{\circ} 47'$ long. west from Greenwich. It is the principal port and the largest city in the State, is the seat of justice of Galveston County, and is located on the inner shore of Galveston Island, about 2 miles from its most north-easterly point, known as Fort Point. The city therefore faces the main Texas shore, being separated from it by West Bay, lying between the island and the mainland. The principal portion of the county lies on the mainland fronting the two bays above named, its general surface, like that of the island, being low and level, and the soil sandy.

Galveston Island is a low sandy island, about

28 miles long and $1\frac{1}{2}$ to $3\frac{1}{2}$ miles wide, stretching along the coast of Texas in a north-easterly and south-westerly direction, and forming the gulf coast-line throughout its entire length. Its surface, which has an average height of 4 to 5 feet above tide level, is diversified by a number of fresh-water ponds and intersected by several creeks and small bayous. The beach, on the Gulf side, furnishes a smooth and pleasant drive during low-water stage, and excellent surf-bathing at all times. To the northward of the entrance into the harbor, the coast-line is continued in the same general direction to the north-east by Bolivar Peninsula, a low, narrow sand-strip of the mainland, the width of the throat of the harbor between Fort Point and Bolivar Point being about 2 miles. There is a light-house on Bolivar Point.

Galveston Harbor is the finest in the State ; and the bay of the same name, including certain outlying portions of it known severally as East Bay, West Bay, and Turtle Bay, covers an area of upwards of 450 square miles of tidal water. At the head of the bay, about 35 miles from the city in a northerly direction, it receives Trinity River, its largest tributary, while San

Jacinto River and Buffalo Bayou enter it from the west 18 miles lower down.

The mean rise and fall of tide at Galveston is $1\frac{1}{10}$ feet, but spring-tides occasionally rise more than 3 feet above, and fall nearly two feet below the plane of mean low water, and fluctuations between much wider limits are not uncommon under the influence of heavy winds. During a storm which occurred in October, 1867, the water rose $6\frac{6}{10}$ feet above mean low-water stage, and in September, 1875, it rose in some portions of the bay 7 feet, and in others $9\frac{1}{2}$ feet above the same level. Two years later there was a rise of $5\frac{2}{10}$ feet, produced by an on-shore wind which reached a maximum velocity of 60 miles per hour. The lowest tide of which we have any record fell $3\frac{2}{10}$ feet below mean low-water level, thus giving a difference of $12\frac{7}{10}$ feet between the highest and the lowest recorded tides.

A sand bar, produced and maintained by the joint action of waves and currents, stretches across, bow-shaped, in front of the entrance into the bay, restricting the draught of vessels entering the harbor to from $12\frac{1}{2}$ to 13 feet. The United States Government has undertaken the

improvement of this entrance by means of two jetties, one starting from Fort Point and the other from near Bolivar Point, having an aggregate length of about 7 miles. It is the intention to carry them out to and beyond the crest of the bar on converging lines, so that their sea ends, resting in about 18 feet water on the outer slope of the bar, will be about 1 mile apart. It is expected that these jetties will cost about \$2,000,000, and that they will produce and maintain a practicable channel depth of 18 to 19 feet at mean low-water. Once inside this bar a draught of fully 20 feet can be carried to the wharves of the city. The Bolivar Point Jetty, in August, 1879, had reached a length of 8,000 feet from the shore. That from Fort Point had not been carried out so far. The peculiar mode of construction adopted for these works by the superintending engineer, Major C. W. Howell, United States Corps of Engineers, merits some notice here. The jetties are formed with large gabions, or basket-work cylinders, plastered inside and out with hydraulic cement, so as to give a thickness of 5 to 6 inches to the cylindrical wall. The gabions are either circular, with a diameter of 6 feet, or of an

oval cross section, with diameters of 6 feet and 12 feet respectively. They are closed at the bottom, and are also provided with a tight-fitting wooden cover. After being sunk to their proper positions in the work, on their ends, arranged in a single or double row, they are filled with sand pumped up from the bottom and passed in through a hole left in the gabion cover. At first these gabions were placed directly upon the bottom, but the action of the sea and currents caused so much under-scour and settlement, that a foundation of fascines formed into a mattress and weighted with stones was resorted to. On the most exposed portions of the works about one-sixth of the number of gabions put into position have been destroyed by heavy storm-waves, so that this method of construction cannot as yet be regarded as past the experimental stage.

Galveston was first settled in 1837. It is handsomely laid out upon ground elevated from $6\frac{1}{2}$ to 10 feet above ordinary tide level, has wide and straight streets, and has several public squares, parks, and gardens. The streets running parallel to West Bay are known as avenues, and are designated by the letters of the

alphabet, beginning at the bay, while those at right angles to the water are numbered. Special names are assigned to some of the streets. Avenue A, parallel and next to the wharf or channel front, is mostly occupied by wholesale houses. Next comes Avenue B, or "The Strand," and then Avenue C, or Mechanic Street, both devoted largely to the wholesale business. Avenue D, or Market Street, for a distance of seventeen squares, is occupied by retail stores, shops, restaurants, hotels, banks, etc. This is the main shopping street. Avenues E and F are of the same character. The post-office and United States court-house are at the intersection of Avenue F and 20th Street, and the custom-house is near by. Avenue J, or Broadway, is regarded as the most desirable locality for residences. It is 150 feet wide, including an esplanade 36 feet wide through the middle, and a 16-foot sidewalk on either side. Bath Avenue, at right angles to Broadway, is 120 feet wide. Fremont, or 23d Street, is the principal drive in the city, and is maintained as a shell road from "The Strand" to the Gulf beach. With the exceptions named, the streets are 80 feet and the avenues 70 feet wide, in-

cluding 16 feet sidewalks, and the blocks or squares are uniformly 260 wide and 300 feet long, with an alley 20 feet wide running lengthwise through the middle, along the rear of the lots. The portion of the city built over extends from about 6th to 40th Streets, and from Avenue A south to within two to three blocks of the Gulf beach. The only streets paved are four or five blocks on Avenues B, C, and D. They are paved with blocks of heart cypress. The same avenues are shelled from between 10th to 32d Streets, or thereabouts, with clam shells from 18 to 30 inches deep. Trees are planted very generally on the outer edge of the sidewalks, the oleander being the chief growth. It frequently attains a height of 20 to 25 feet, and grows rapidly from slips with great luxuriance, blooming the year round. The fig, orange, the black Hamburg and other kinds of grape, and many varieties of flowers and evergreen shrubbery, thrive and flourish. Throughout the most thickly-settled portions of the city the sidewalks are paved with either asphaltum, concrete, brick, or German or English tiles. Oleander Park embraces 80 acres, and the city park about 25 acres, and there are three public gardens and

six public squares. The business portion of the city is built up mostly with brick, and within certain defined fire limits the erection of wooden buildings is prohibited,

Among the public buildings, other than churches, are a post-office, custom-house, United States court-house, a county court-house, a county and city prison, a city hall, an opera-house, 7 public halls, 2 libraries, 2 theatres, 13 hotels of different grades, and 3 market-houses. There are 30 schools of all kinds, 15 church edifices, a Roman Catholic university or college (St. Mary's), a medical school, a convent, a house of refuge, an orphan asylum, and 3 hospitals. The St. Mary's university was founded in 1854, and in 1872 had 8 professors and 35 collegiate and 115 preparatory students. The medical school, founded in 1864, had ten years thereafter 6 professors. The convent (Ursuline) has 25 nuns and a female academy connected with it. There are two other female academies in the place. There are published in the town a number of daily, tri-weekly, and weekly papers. Galveston is a bishop's see of the Roman Catholic Church. The city is well connected by railroad with different parts of the State, and

by regular steamship lines with Liverpool, New York, Havana, New Orleans, and the ports of Texas. The Galveston, Houston, and Henderson Railroad crosses West Bay on a wooden bridge 2 miles long, and by means of the Galveston Wharf Railroad delivers and receives freight at the several wharves of the city. The Gulf, Colorado, and Santa Fé Railroad, now building from Galveston to Belton, in Bell County, a distance of 220 miles, is finished (September, 1879) as far as Richmond, a distance of 63 miles, and 57 miles more to Brenham will be finished by January 1, 1880. The entire road to Belton is to be completed by September, 1881. This road crosses the Brazos River, below Richmond, on an iron bridge, and has a wooden bridge of its own across West Bay. There are no highway bridges connecting Galveston Island with the mainland.

The cotton business of the place is represented by six cotton presses and many immense brick warehouses, furnishing storage-room for nearly 200,000 bales of cotton, and covering an area of more than 50 acres. There are two national banks, with an authorized capital of \$800,000, and a paid-up cash capital of \$300,-

000,—the aggregate paid-up capital of all the banks being upward of \$2,000,000. The assessed value of real estate in 1878 was over \$20,000,000, and the bonded debt \$1,200,000.

Galveston is a healthy city, possesses a delightful climate, and has not been afflicted with an epidemic disease since 1867.

The following table, giving the temperature, the barometric pressure, and the rainfall at this place for five years ending June 30, 1878, has been compiled from the reports of the Chief Signal Office, United States Army:—

Year ending June 30.	TEMPERATURE FAHR.			Mean Annual Barometric Pressure.	Annual Rainfall.
	Highest.	Lowest.	Annual Mean.		
1874	98.5°	72.8°	30.051	54.49
1875	98.5°	24°	69.6°	30.063	46.66
1876	97.0°	40°	70.9°	30.050	70.59
1877	96.0°	30°	68.7°	30.073	42.99
1878	97.0°	30°	70.2°	29.997	67.47

There was only one occasion during the five years, and that occurred on the 10th of January, 1875, when the temperature fell below 30° F.

The population of the city was more than trebled during the twenty years ending in 1870, and the local authorities claim that since 1870

the rate of increase has been more rapid still, and that in 1874 the population had reached between 25,000 and 30,000. A municipal census taken in 1876 made the population 35,000, which is believed to be too high. The past and estimated present population are given below:—

YEAR.	White.	Colored.	Total.
United States Census of 1850.....	3,469	708	4,177
United States Census of 1860.....	6,127	1,180	7,307
United States Census of 1870.....	10,810	3,008	13,818
Estimated for 1879.....	31,000

In the business of receiving and shipping cotton, the leading production of the Southern States, Galveston ranks third in importance among the ports of the United States, New Orleans and Savannah standing before it, and Charleston, Norfolk, and Mobile after it in the order named. More than one-tenth of the cotton crop of the country finds a market through the port of Galveston. The following table shows the yearly receipts of bales of cotton at the six ports above named, for five years ending September 1, 1879:—

PORTS.	1878-79.	1877-78.	1876-77.	1875-76.	1874-75.
New Orleans.....	1,175,415	1,391,555	1,182,357	1,401,563	982,198
Savannah.....	690,901	597,449	477,477	521,437	605,566
Galveston.....	573,274	454,137	491,980	465,529	354,927
Norfolk.....	442,458	425,214	505,932	469,997	382,387
Charleston.....	449,888	423,128	442,515	389,698	413,101
Mobile.....	362,522	414,332	357,879	371,298	319,263

The value of imports from foreign countries for the two years ending July 31, 1878, was as follows:—

	1877-78.	1876-77.
Imports of free commodities.....	\$952,713	\$1,155,808
Imports of dutiable commodities	194,615	201,680
Total.....	1,147,328	1,357,488

The leading importations comprise coffee from Brazil and Mexico, and manufactured cotton, woollen, and iron goods. The duties collected during the year ending July 31, 1878, amounted to \$62,352.73, as against \$95,980.49 during the previous year.

The value of domestic commodities, consisting largely of cotton, oil-cake, cattle, preserved meats, bone dust, cotton seeds, and lumber, exported to foreign countries during the year end-

ing July 31, 1878, amounted to \$11,963,132, as against \$15,242,747 for the previous year.

The number and tonnage of vessels entered and cleared at the port of Galveston annually, for the six fiscal years ending June 30, 1878, are shown in the following tables:—

COASTING TRADE.

ENTERED.			CLEARED.		
YEARS.	Number of Vessels.	Tonnage.	YEARS.	Number of Vessels.	Tonnage.
1877-8	198	192,114	1877-8	291	291,264
1876-7	388	407,382	1876-7	301	263,792
1875-6	428	435,535	1875-6	311	290,956
1874-5	460	428,334	1874-5	531	285,970
1873-4	490	450,830	1873-4	315	274,919
1872-3	636	569,206	1872-3	422	424,848

FOREIGN TRADE.

1877-8	130	72,585	1877-8	135	82,300
1876-7	167	99,386	1876-7	165	102,744
1875-6	177	85,598	1875-6	191	107,192
1874-5	167	99,175	1874-5	208	127,527
1873-4	206	124,316	1873-4	241	145,237
1872-3	156	79,170	1872-3	175	92,998

The decrease in the number of coasting vessels entered and cleared is accounted for in part by the fact that the Morgan line of steamers from New Orleans, which formerly entered here, now proceed up the bay to Clinton with original

manifest, and make the entry there, merely touching at Galveston to land freight, passengers, and mails.

The number of documented vessels owned in the customs district of Galveston during the year ending June 30, 1878, was 197, with an aggregate tonnage of 9,310 tons; built during the year, 9, with an aggregate tonnage of 239 tons; and lost at sea, wrecked, or abandoned, 16, with a total tonnage of 387 tons.

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[Price 25 Cents.]

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